

A New Species of Land Snail of the Genus *Georissa* (Gastropoda: Hydrocenidae) from the Philippine Islands

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ABSTRACT

Georissa cavini new species is described from an isolated limestone outcrop in the northeastern extremity of Panay Island, Philippine Islands. The new species is characterized by its relatively large size and shell sculpture of weak spiral threads which become increasingly oblique below the periphery. It is most similar to *Georissa coccinea* Quadras and Moellendorff, 1895 from Masbate Island, Philippine Islands. *Georissa everetti* E. A. Smith, 1895 from Sarawak has a similar shell, but much stronger shell sculpture.

Key Words: Hydrocenidae, *Georissa*, new species, Philippine Islands, Panay Island, Masbate Island.

INTRODUCTION

The author conducted a survey of the terrestrial mollusks of Panay Island, Visayan Islands, in the central Philippines, during April–May, 1992. Fifty-five sites were sampled, with emphasis on the small species found in the widespread limestone areas of Panay and its satellite islands.

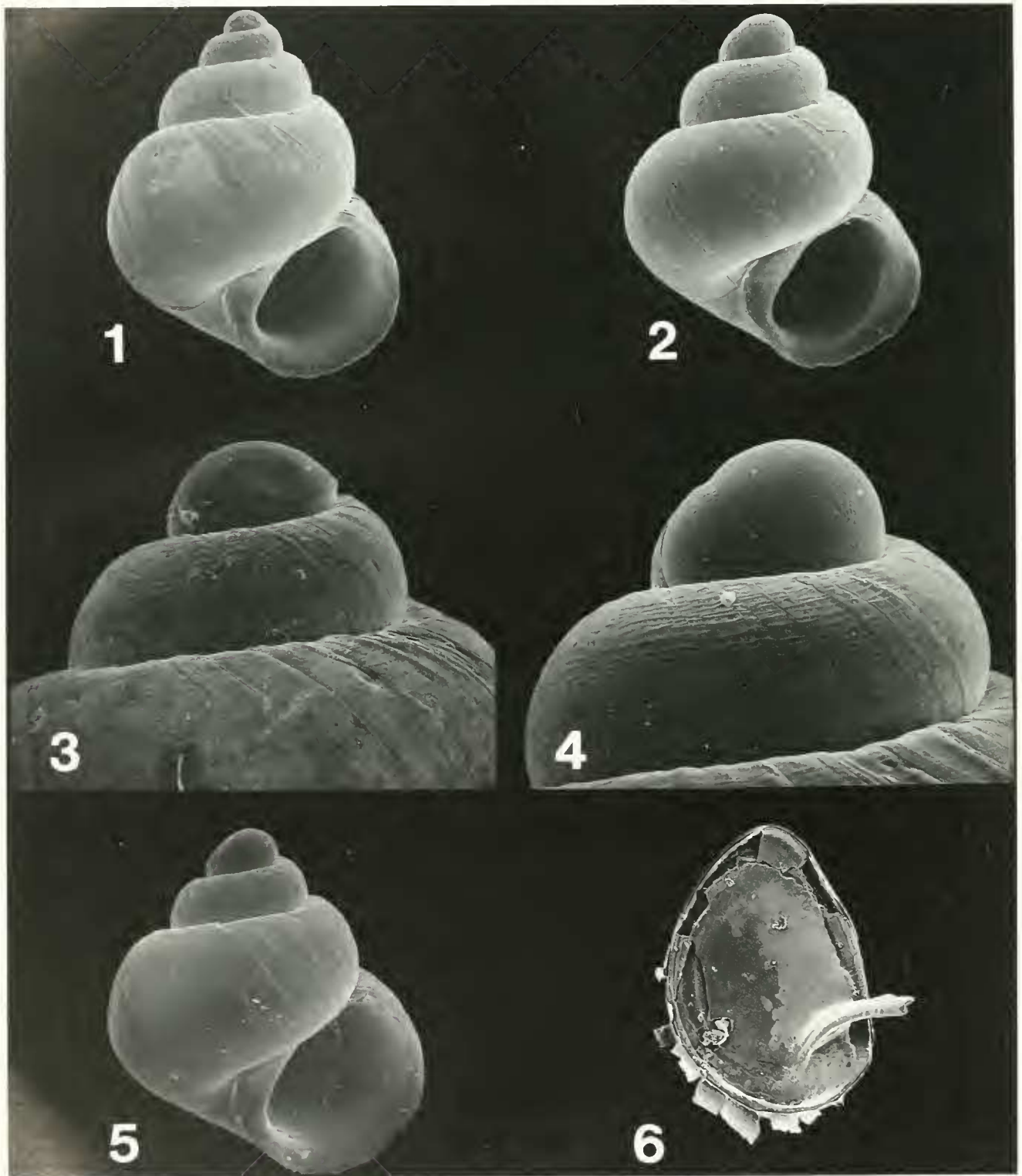
Only about 52 species and subspecies of terrestrial mollusks have been recorded from Panay (Bartsch, 1919, 1938, 1939, 1942; Moellendorff, 1898; Smith, 1932a, b). This is a small number, when compared to landmasses of similar size in the Philippines. However, much of the island consists of low, rolling hills (now mostly converted to agriculture), which do not provide the varied habitats of other areas of the Philippines. Substantial elevations and a greater diversity of habitats favorable to terrestrial mollusks occur only in the extreme western portion of the island. Most taxa previously recorded from Panay are still extant, but their distributions are now restricted to small plots of remnant forest, except those of the comparatively pristine higher elevations (> 800m) in the west. Few undescribed species were encountered. *Georissa* is a common faunal component throughout the Philippines, yet all specimens of this genus found in Panay belong to a single, undescribed species. This new species is here named and described.

The type-series and other specimens examined are deposited in the Philippine National Museum (PNM) and Florida Museum of Natural History, University of Florida (UF).

SYSTEMATICS

Class Gastropoda Cuvier, 1797
Superfamily Neritoidea Rafinesque, 1815
Family Hydrocenidae Troschel, 1856
Genus *Georissa* Blanford, 1864
Georissa cavini new species
(Figures 1, 3, 5, 6)

Description: Shell (Figure 1) medium-sized for genus (mean = 2.4 mm length, 1.8 mm width), turbiniform, ratio length/width about 1.33. Shell with 3.6 whorls. Embryonic whorl bulbous; subsequent whorls convex. Sutures deeply impressed; sutural channel distinct on early whorls, occasionally becoming very shallow on last half whorl. Sculpture of embryonic whorls a fine mesh of pits. Teleoconch glossy, with growth threads of variable strength, crossed by extremely fine oblique spiral threads that become increasingly oblique below periphery. Growth striations more distinct on body whorl; spiral threads stronger on upper whorls (Figure 3). Aperture subovate, ratio aperture length/shell length about 0.42. Parietal wall lying at an angle of about 27–38° (mean = 34°) to axis of shell; plane of aperture in lateral profile at about 28–34° (mean = 31°) to shell axis. Umbilical area indented; basal area with wide concave columellar shield; edge of basal lip extending to left in an arc, forming thin, but prominent ridge terminating in umbilical region, bordering columellar shield on left. Umbilical callus concave to very slightly convex. Peristome thickened internally, usually more so near base of columella and upper insertion (Figure 1). Outer lip slightly sinuose in lateral profile. Shell color brick-red to orange, usually more intense on spire; inner edge of lip and insertion area with rose red border in live-collected specimens. Operculum (Figure 6) calcareous, concentric with sub-central nucleus. Inner surface with relatively long, slen-



Figures 1-6. *Georissa cavini* new species and *G. coccinea* Quadras and Moellendorff, 1895. 1, 3, *G. cavini*, holotype, 2.3 mm length, PNM-CO 39451. 2, 4, *G. coccinea*, 1.8 mm length, UF 87296. 5, *G. cavini*, paratype, juvenile, 1.3 mm length, UF 250000. 6, *G. cavini* internal surface of operculum, paratype, 0.9 mm operculum length, UF 267452.

Table 1. Adult shell measurements (mm, converted from ocular micrometer units) of selected specimens of *Georissa cavini* new species (holotype in parentheses) and *Georissa coccinea* (UF 57296). L = length, W = width, Ap = aperture.

	<i>G. cavini</i>	<i>G. coccinea</i>
Number of specimens	7	3
L	2.2–2.5 (2.3)	1.7–1.8
W	1.8–2.0 (1.8)	1.4
W/L	0.70–0.82 (0.77)	0.77–0.84
ApL	0.9–1.0 (1.0)	0.7
ApW	0.8–0.9 (0.8)	0.6
ApW/ApL	0.76–0.84 (0.76)	0.83–0.91
ApL/L	0.37–0.47 (0.44)	0.37–0.44
Number of Whorls	3.2–3.9 (3.5)	3.2

der peg along columellar margin. Peg lying at low angle to plane of operculum; laterally compressed, interior surface of peg narrower than base; base extending to columellar edge of operculum. Inner surface of operculum flat with slightly raised callus along edge. Outer surface covered with thin chitinous sheet extending well beyond edge of operculum.

Type material: Holotype, PNM-CO 39481, 2.3 mm length \times 1.8 mm width, (coated for scanning electron microscopy); Paratypes: UF 250000, 12 paratypes; UF 267482, 2 paratypes (shells and opercula coated for scanning electron microscopy). The holotype and paratypes were collected alive.

Type locality: Philippine Islands, Panay Island, Iloilo Province, ca. 10 km NE of Balasan, shaded limestone cliff face, limestone outcrop about 5 m above sea level on east side of the road between Balasan and Carles (GPS: 11°29'15"N, 123°00'27"E).

Other material examined: UF 267481, 53 shells, collected dead at type locality; in soil sample taken at the base of the limestone outcrop.

Etymology: I take great pleasure in naming this species in honor of Mr. Edward W. Cavin of Jacksonville, Florida. Mr. Cavin not only assisted in the collection of the type series, but has shared with me the rigors of fieldwork on several occasions, usually under spartan living conditions and with far less than adequate means of transportation.

Comparative remarks: The shell sculpture of *Georissa cavini* new species is most similar to *G. coccinea* Quodras and Moellendorff, 1895 (Figures 2, 4), only reported from Palanoc, Masbate (Quodras and Moellendorff, 1895:88), probably currently known as Palanog, a village located in the lowlands about 8 kilometers SSE Masbate City. *Georissa coccinea* has a smaller, broadly conical shell with a proportionately shorter spire than *G. cavini* (Figure 2, Table 1). The former usually has about 0.4 fewer whorls (Table 1), which are decidedly more convex in outline (Figure 2). The prominent ridge bordering the columellar shield in *G. cavini* is very thin and

erect. When present in *G. coccinea* this ridge is weak and low. Juvenile *G. cavini* and adult *G. coccinea* of equivalent shell size are superficially similar, but the former are more globose, have a simple, unthickened peristome and a proportionately larger aperture (Figure 5). Opercular characters of *G. coccinea* are unknown. *Georissa everetti* E. A. Smith, 1895 of Sarawak has a similar, but much stronger shell sculpture. The shell of *G. everetti* is smaller (1.95–2.20 mm length), with deeply impressed sutures and a more broadly conical shell shape (Thompson and Dance, 1983:120–121, figs. 55–57).

Large (> 2.4 mm length) individuals of *G. cavini* have more protruding protoconchs and whorls which descend more rapidly than those of typical adult shells, developing a longer spire and a more elongate shell. A continuum is presented in the type series and, besides these differences, the shells are identical to the other examined material.

DISCUSSION

The Hydrocenidae are widely distributed in southeastern Europe, Africa, Madagascar, much of southern Asia, northern Australia, New Zealand, and some Pacific Islands. Some taxonomic confusion exists at the genus level, but most Asian species have been assigned traditionally to *Georissa*. Most hydrocenids are obligatory inhabitants of limestone rockfaces and many have extremely limited distributions. Collectors, because of the small size of hydrocenids, may easily overlook these snails. Specimens can be most successfully found through close inspection of limestone rock faces and soil samples. Undoubtedly, many undescribed species exist throughout the vast range of the group. Available information indicates that the highest diversity of *Georissa* occurs in the Philippines (11 species; this paper and Moellendorff, 1898, but 3 of these species are better assigned to the Assimineidae, see below) and Borneo (14 species; Thompson and Dance, 1983).

Georissa cavini was the only hydrocenid collected during the survey of Panay, despite thorough searches in many limestone areas throughout the island. Dead shells were not found even though soil samples were taken at most collecting sites. Several series of *Georissa subglabrata* Moellendorff, 1887, which has been recorded from numerous localities throughout the Philippines (Moellendorff, 1898), were collected. However, this species and probably two other very similar taxa, *G. regularis* Quodras and Moellendorff, 1895, and *G. turritella* Moellendorff, 1893, are properly assigned to the Assimineidae (Auffenberg, pers. obs.). Surprisingly, *Georissa denselirata* Moellendorff, 1894, which is known from other Visayan Islands, including Negros, Cebu and Romblon (Zilch, 1973), was not encountered on Panay.

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